

## **Environmental Assessment**

**Western Upper Peninsula Shooting Complex  
Lake Superior Sportsman's Club  
Ontonagon County, Michigan**

**February 3, 2021**

**Prepared for:  
Michigan Department of Natural Resources  
8717 North Roscommon Road  
Roscommon, Michigan 48653**

**Prepared by:  
Stantec Consulting Services Inc.  
2300 Swan Lake Boulevard  
Suite 202  
Independence, Iowa 50644  
(319) 334-3755**

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## **1.0 PROJECT OVERVIEW, BACKGROUND, PURPOSE AND NEED**

### **1.1 INTRODUCTION**

This Environmental Assessment (EA) has been prepared to inform the public of the proposed improvements to the site currently occupied by the Lake Superior Sportsman's Club (Proposed Action, LSSC, or Project) in Ontonagon County, Michigan. The proposed Project will be located on public land managed by the Michigan Department of Natural Resources (MDNR) and, once complete, will be operated by LSSC on behalf of the MDNR. The intent of this EA is to inform the public of the effects of the Proposed Action and its alternative, seek input from the public regarding the Proposed Action, and to disclose the environmental impacts of the Proposed Action to the public and decision-makers before a decision is made.

This EA evaluates the effects of construction and operation of the Project.

### **1.2 PROJECT SUMMARY**

The proposed Project is a public shooting range and clubhouse/meeting facility operated by LSSC on behalf of the State of Michigan in Ontonagon County, Michigan (Figure 1). The parcel is owned by the State of Michigan. The proposed Project will occur in at least two phases. Phase I includes the installation of a new clubhouse and indoor shooting range, with associated access, utility, and parking improvements. Phase II includes the demolition of existing buildings and the development of the area for outdoor shooting activities. Phase II may also include the renovation of existing outdoor range facilities to improve berms, install monitoring wells, build structures over the shooting stations, and access drive improvements. Funding would be primarily federal from the Wildlife and Sport Fish Restoration Program (commonly referred to as the Pittman-Robertson fund), along with state funds from the Michigan Natural Resources Trust Fund.

### **1.3 REGULATORY AND POLICY BACKGROUND**

- Endangered Species Act of 1973 (ESA)
  - Federally-listed threatened and endangered species and designated critical habitat are governed by the ESA and its implementing regulations (50 CFR parts 13 and 17).
- Michigan Natural Resources and Environmental Protection Act of 1994 (NREPA) (Part 365 of PA 451)
  - Endangered, Threatened, and Probably Extirpated species are protected in Michigan under this act. The current list of animal and plant species became effective on April 9, 2009 and was produced by the Endangered Species Program of the MDNR and the Michigan Natural Features Inventory (MNFI).

### **1.4 PURPOSE AND NEED**

#### **1.4.1 Purpose of the Environmental Assessment**

The purpose of this EA is to disclose the environmental impacts of the Proposed Action and its alternative. The specific purposes for which this EA is being prepared are to:

- Evaluate the environmental impacts to the human environment.
- Ensure compliance with applicable state and federal laws and regulations.

### **1.4.2 Purpose of the Proposed Action**

The Project area is currently being used as a shooting range but requires updates to support the interest in shooting sports in Michigan. The purpose of the Proposed Action is to provide improved shooting opportunities to the people in and around Ontonagon County, Michigan.

### **1.4.3 Need for the Proposed Action**

The LSSC is currently the only shooting range available in Ontonagon County. The nearest public shooting range is in Iron County, approximately 75 miles south. There is currently no other MDNR shooting range in the Upper Peninsula of Michigan. The MDNR partnered with Michigan Technological University in Houghton County to assist them in range renovations and the MDNR is in the process of planning to develop a new range in Marquette County, approximately 100 miles southeast of the Project. The Project area is currently being used as a shooting range (Section 1.4.2); however, further development of the Project area into a public shooting range would allow for a controlled and safer location for the use of firearms and provide the first public range on MDNR managed public land within the Upper Peninsula of Michigan.

## **1.5 DECISIONS THAT NEED TO BE MADE**

This EA and initial design of the Project will be posted online for public comment. Adjustments may be made to the alternatives in response to comments received from agencies, the public, or other interested parties. The MDNR will consider public comments, cost, operational characteristics, environmental impacts and other relevant factors for range design and construction at the LSSC site.

## **2.0 ALTERNATIVES**

Environmental Assessments prepared for a proposed action must discuss a range of alternatives. Therefore, this chapter describes the development of reasonable alternatives explored and evaluated in the EA relevant to the Proposed Action.

Both the Proposed Action and a No-Action alternative were evaluated for their ability to meet the purpose and need requirements of the Project, feasibility to implement, and environmental impacts.

### **2.1 ALTERNATIVES CARRIED FORWARD**

#### **2.1.1 Proposed Action**

Under this alternative, the proposed Project area would be developed into a public shooting range.

The Proposed Action includes:

- a new clubhouse
- a new indoor shooting range
- access, utility, and parking improvements

- demolition of existing buildings
- development of the area for outdoor shooting activities
- renovation of existing outdoor range facilities to improve berms, install monitoring wells, build structures over the shooting stations, and access drive improvements.

The Proposed Action was chosen as the preferred alternative because it meets the purpose and need of the Project.

### **2.1.2 The No-Action Alternative**

Under the No-Action Alternative, the Project would continue to run as a shooting range. However, no improvements would be made to the existing property. It is assumed that the parcel would not be developed and current land use at the parcel would continue. This alternative does not meet the purpose and need of the Project as it does not provide updated buildings and shooting structures to meet the growing interest in shooting sports.

## **2.2 ALTERNATIVES NOT CONSIDERED FOR DETAILED ANALYSIS**

Additional alternatives to the Proposed Action and the No-Action Alternative were developed. However, these alternatives do not meet the purpose and need of the Project and were not considered for detailed analysis.

### **2.2.1 Relocating the Project Components Within the Project Area**

Several locations within the current Project area were considered for various components of the Project. For example, the septic system was relocated due to potential wetland impacts. This alternative was not considered due to potential impacts to wetlands within the Project area.

### **2.2.2 Relocating the Project to a New Site**

Relocating the range to other MDNR Parks and Recreation Division-managed public land in Ontonagon County was evaluated. However, this alternative was not considered further due to increased construction costs and the disturbance of public land within the Porcupine Mountains Wilderness State Park boundary. Other public land was considered but is currently managed for timber and wildlife habitat making development of the Project infeasible.

## **3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **3.1 AFFECTED ENVIRONMENT**

The affected environment is the Project area and its resources (i.e., biological, physical, socioeconomic) potentially impacted by the Proposed Action and No-Action Alternative. The purpose of describing the affected environment is to define the context in which the impacts would occur. To make an informed decision about which alternative to select, it is necessary to first understand which resources would be affected and to what extent. The affected environment sections of this document attempt to provide the

basis for this understanding. The affected environment includes those settings where any covered activities (construction and operation) would occur.

Project construction and operation are unlikely to have significant effects to environmental justice, land use, visual resources, cultural resources, transportation, and communications. The Applicant's Proposed Action and the No-Action Alternative are not anticipated to result in changes to the current condition of these resources. Therefore, this EA does not include detailed analyses of these resources.

In summary, the following descriptions of resources are limited to those affected by the alternatives under consideration, described in Section 2.0. Detailed analysis is confined to the biological environment (wetlands; vegetation; wildlife), physical environment (contamination; noise), and socioeconomic environment (economics).

### **3.1.1 Overview of the Project Area**

The Project is located in Carp Lake Township in Ontonagon County of Michigan's Upper Peninsula and covers approximately 36.26 acres (Figure 1). The limit of the proposed disturbance is approximately 9.26 acres (Figure 2). The setting of the Project area primarily includes forested lands, Patent Creek, and commercial development currently associated with the existing LSSC.

This property, and the current buildings located at the site, have been in place since 1949 when the site was developed and used as a correctional facility called Camp Porcupine. Due to a number of issues, Camp Porcupine was closed in 1969. The LSSC began leasing the property and buildings from the State of Michigan in 1970. The site has been operated as a shooting range since 1970, and much of the improvements under the proposed action would be located in areas previously occupied or disturbed by Camp Porcupine or the LSSC.

Ontonagon County falls within the Northern Lakes and Forest Ecoregion (US Environmental Protection Agency [USEPA] 2017). The highest elevation in Ontonagon County is about 1,985 feet, and the lowest elevation is about 581 feet above sea level. Ontonagon County's most prominent topographic features are the Porcupine Mountains in the northwest part of the county. Much of the rest of the county is characterized by flat to gently rolling glaciated plains. Ontonagon County is drained by the Ontonagon River and its tributaries, all of which empty into Lake Superior to the north of the county.

Patent Creek flows north into Lake Superior along the western boundary of the Project area. National Wetlands Inventory (NWI) data and the National Hydrography Dataset (NHD) indicate Patent Creek is the only stream in the Project area.

## **3.2 ENVIRONMENTAL CONSEQUENCES**

The environmental consequences section analyzes the environmental impacts of both alternatives described in Chapter 2.

The direct and indirect effects of both alternatives (if applicable, some impacts are the same under both alternatives) are described in each resource section. Direct effects are those that are caused by the action and occur at the same time and place as the action. Indirect effects are those that are caused by the action but occur later in time or are further removed in place but still reasonably foreseeable.

### **3.3 HABITAT AND VEGETATION**

#### **3.3.1 Affected Environment**

Wetland areas included in this analysis include both NWI-indicated wetlands and field delineated wetlands. Vegetation resources include all plants, including rare, threatened, and endangered plants. Vegetation in the Project area is dominated by woodland. General landcover is described in Section 3.3.1.2.

##### **3.3.1.1 Wetlands**

A desktop wetland determination which included the Project area was conducted in 2019 (Stantec 2019). One stream, Patent Creek is located within the Project area (Figure 3). A field wetland delineation was also conducted for the Project in 2019 that identified 10 wetlands within the Project area (Stantec 2019). However, only four of these wetlands are located within the current Project area (Figure 4), and none of the wetlands are located within Phase I of the project area. These wetlands consist of hardwood swamp, wet meadow wetland, and floodplain forest wetland community types.

##### **3.3.1.2 Vegetation**

Vegetation within the survey area is dominated by woodlands. Tree species within the Project area include green ash (*Fraxinus pennsylvanica*), red maple (*Acer rubrum*), balsam fir (*Abies balsamea*), tag alder (*Alnus incana*), sugar maple (*Acer saccharum*), and bigtooth aspen (*Populus grandidentata*).

Based on coordination with MDNR and the MNFI natural heritage database, there are no known occurrences of state-listed plant species in the Project area. However, there are records of the state-threatened large toothwort (*Cardamine maxima*) within 1.5 miles of the Project. No federally listed plants are known to occur in Ontonagon County.

##### Large Toothwort

Large toothwort is listed as threatened in Michigan. It is a perennial forb with 3-4 alternate leaves and pink flowers. Large toothwort is found in rich woods and floodplain forests, occasionally along streams. Based on field visits, there is habitat for this species within the Project area. However, the records in Ontonagon County are historic, with the species last observed in 1868, and the species was not observed during field surveys in 2019 (MNFI 2020; Stantec 2019).

#### **3.3.2 Environmental Consequences**

##### **3.3.2.1 Wetlands**

The layout of Project components has been designed to avoid impacts to the wetlands described in the 2019 wetland delineation report (Stantec 2019). Therefore, a Michigan Department of Environment, Great Lakes, and Energy (EGLE) permit, pursuant to Part 303, Wetland Protection, of the NREPA, as amended will not be required.

Neither alternative would result in adverse or beneficial impacts to wetlands; therefore, wetlands will not be evaluated further.



### **3.3.2.2 Vegetation**

Approximately 0.5 acre of tree clearing would occur as a result of the Proposed Action. Trees would be cleared around the building site and where the septic system will be installed. No tree clearing would occur as a result of the No-Action Alternative.

Impacts to the large toothwort are not expected under either alternative.

## **3.4 THREATENED, ENDANGERED, AND SPECIAL CONCERN WILDLIFE SPECIES**

This section addresses wildlife, including common terrestrial and aquatic animals and rare, threatened, and endangered animals. Project operations may affect wildlife resources.

### **3.4.1 Affected Environment**

Based on the current use of the Project area and the habitat available (Section 3.1.1), the majority of the wildlife species in the Project area are already adapted to the noises and activities associated with a shooting range.

Common wildlife species present within and adjacent to the Project area may include coyote (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), squirrels (*Sciurus* spp.), American bullfrog (*Lithobates catesbeianus*), eastern gartersnake (*Thamnophis sirtalis sirtalis*), black-capped chickadee (*Poecile atricapillus*), and northern cardinal (*Cardinalis cardinalis*). Federal and state-listed wildlife species may also occur in the Project area. Impacts to federal and state-listed wildlife species are addressed in Sections 3.4.1.1 and 3.4.1.2 respectively.

#### **3.4.1.1 Federal-listed Wildlife Species**

Federal-listed species are afforded protection under the ESA. Based on coordination with USFWS, the Project is within the range of three federal-threatened wildlife species: Canada lynx (*Lynx canadensis*), northern long-eared bat (*Myotis septentrionalis*), and rufa red knot (*Calidris cantus rufa*) (USFWS 2020a).

##### Canada Lynx

The Canada lynx was listed as threatened in the contiguous United States by the USFWS on March 24, 2000 (65 FR 16053-16086). The lynx is a medium-sized cat with large paws, long ear tufts, and a short, black-tipped tail. Their fur is dense, with a grayish-brown to pale brown fur on the back and grayish-white fur on the belly, legs, and feet in the winter. In the summer, fur is more reddish to gray-brown. The lynx needs landscapes with high snowshoe hare (*Lepus americanus*) densities, their primary prey (USFWS 2021). These habitats are associated with moist, cool, boreal spruce-fir forests with gently rolling terrain. The forest needs dense understory vegetation that provides food and cover to snowshoe hares and log piles or windfalls to provide security for kittens (USFWS 2021).

Canada lynx in the contiguous United States account for only 2% of the total population. These populations are mostly located in northern Maine, northeastern Minnesota, northwestern Montana/northern Idaho, and north-central Washington. Critical habitat for the lynx was designated in the contiguous United States on November 9, 2006 (71 FR 66008-66061). Critical habitat has been revised multiple times, most recently on September 12, 2014 (79 FR 54781-54846). Based on coordination with USFWS and a review of critical habitat documents, the Project is outside of the critical habitat designated for this species. However, the Project location is within the known range for Canada lynx and suitable

woodland habitat may be present within the survey area. Impacts to this species are unlikely to occur, however, as the Project has been operating as a shooting range since the 1970s. Presence of humans and noise in the Project area would likely deter the Canada lynx.

#### Northern Long-eared Bat

On April 2, 2015, the USFWS published a final rule in the Federal Register designating the northern long-eared bat as a threatened species throughout its geographic range (81 FR 1900-1922), which includes Ontonagon County, Michigan. The listing became effective on May 4, 2015. The northern long-eared bat is a medium-sized bat, distinguished by its long ears. Their fur is a medium to dark brown on the back and tawny to pale-brown on the underside.

The northern long-eared bat's summer habitat preferences are variable, as they will utilize a wide variety of forested habitats for roosting, foraging, and traveling. They may also utilize some adjacent and interspersed non-forested habitat, such as emergent wetlands and field edges. Winter habitat includes underground caves and cave-like structures, such as mines and railroad tunnels. These hibernacula typically have high humidity, minimal air current, large passages with cracks and crevices for roosting, and maintain a relatively cool temperature (USFWS 2014). On April 26, 2016, the USFWS issued a ruling that designation of critical habitat for the northern long-eared bat is not prudent (81 FR 24707); therefore, no critical habitat has been designated for this species.

The northern long-eared bat has variable summer habitat preferences, and the forested areas within the Project area provide suitable summer habitat for the species.

#### Rufa Red Knot

The rufa red knot was listed as threatened by the USFWS on December 11, 2014 and the listing became effective on January 12, 2015 (79 FR 73705-73748). The rufa red knot is a plump, medium-sized shorebird with a medium-length bill. Their non-breeding plumage is a pale ashy gray above with white underparts. In spring, adults are mottled with shades of gray and black above and have terracotta-orange underparts.

The rufa red knot breeds in the tundra of the central Canadian Arctic and migrates to wintering grounds as far south as the southern tip of South America (USFWS 2020b). They also overwinter throughout the Caribbean, and along the southeastern and Gulf coasts of the United States and Mexico. Rufa red knots occasionally appear at interior locations while migrating, where they frequent sandy or pebbly shores of large lakes and wetlands (USFWS 2020b).

No suitable habitat for the rufa red knot (i.e., large, coastal wetlands or lake shorelines) is present within the Project area.

### **3.4.1.2 State-listed Wildlife Species**

In Michigan, state-listed species are afforded protection under NREPA. Based on coordination with MDNR and the MNFI database, there are no known occurrences of state-threatened or endangered wildlife species in the Project area. However, there are records of two species of special concern within 1.5 miles of the Project including the bald eagle (*Haliaeetus leucocephalus*) and yellow banded bumble bee (*Bombus terricola*). These species are not afforded protection under NREPA.

### Bald Eagle

The adult bald eagle has a brown body with a distinctive white head and tail with a yellow bill and feet. Juvenile bald eagles are covered in dark brown feathers mixed with white feathers (Buehler 2000). Male bald eagles are smaller, weighing as much as 10 pounds and have a wingspan of 6 feet, while females can weigh up to 14 pounds and have a wingspan of 7–8 feet (USFWS 2015).

Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering (USFWS 2015).

The bald eagle is not protected under the state's NREPA or the federal ESA. However, the species is afforded protection by the Bald and Golden Eagle Protection Act (16 United States Code [USC] §668-668d) as amended (BGEPA). Suitable nesting habitat for bald eagles is located within the Project area; however, no bald eagles or nests were observed during field surveys.

### Yellow Banded Bumble Bee

The yellow banded bumble bee has a yellow thorax and second and third abdominal segment. The head, legs, and remainder of thorax and abdomen are black, with the exception of a fringe of brownish-yellow hairs on the fifth abdominal segment. The queen is slightly larger than the workers (0.8 inch versus 0.6 inch in length).

Yellow banded bumble bees are typically found in or around wooded areas. This species is an underground nester, often using abandoned rodent nests. They overwinter in loose soil, mulch, or rotting logs (Schweitzer et al. 2012).

Although suitable habitat for the yellow banded bumble bee is found within the Project area, the species has not been observed in Ontonagon County since 1965 (MNFI 2020).

## **3.4.2 Environmental Consequences**

Shooting range activities are not expected to significantly affect wildlife, including threatened and endangered species, and would not differ under either alternative considered. It is possible that some wildlife already avoids the Project area because of the current use of the Project as a shooting range. However, common species, such as white-tailed deer, raccoon, and coyote, tend to become habituated to human activity and habitat modification.

Wildlife may be exposed to vehicle encounters on access roads, resulting in injury or death, but this exposure is not expected to differ among the alternatives analyzed or increase over existing conditions. Wildlife roadkill is not expected to change from current conditions or affect different species as compared to that which occurs on public roads within and adjacent to the Project area.

Wildlife may be exposed to lead shot, as it can be mistaken for small seeds and accidentally consumed. In addition, lead in soil can accumulate in leaves, seeds, and other parts of plants that are consumed. Wildlife exposure to lead can be managed using operational and engineering techniques.

Tree clearing associated with the Proposed Action is anticipated to be minimal (0.5 acre) but nevertheless could impact the federally-threatened northern long-eared bat if conducted during the bat active season.

Impacts to the federally-threatened Canada lynx, federally-threatened rufa red knot, and state special concern yellow banded bumble bee are not expected under either alternative.

### **3.5 CONTAMINATION**

Lead is the fundamental contamination issue facing shooting ranges. Lead is harmful in excess quantities.

#### **3.5.1 Affected Environment**

The Project is currently operating as a shooting range. As a result, lead has already been deposited in the environment. Continued use will inherently result in the deposit of additional lead.

#### **3.5.2 Environmental Consequences**

Because the Project is already operating as a shooting range, lead is already present in the Project area. In addition, the groundwater at the Project is already contaminated due to historical mining in the vicinity of the Project. Metallic lead found in bullets and shot has low solubility in water and low chemical reactivity. This lead is generally inactive in the environment. However, if any of the lead becomes environmentally active, environmental consequences could be significant.

This might occur when lead becomes dissolved in soil and migrates to ground water or surface water, is eaten accidentally by wildlife, or is associated with dust particles that can be inhaled.

Under either alternative, the Project will be used as a shooting range and continue to deposit lead. Under the Proposed Action, the indoor range in Phase 1 will be built with a state of the art heating, ventilation and air conditioning (HVAC) system to assist with lead dust management and potential lead contamination to the building and users of the building. The updates to the outdoor range in Phase 2 will include measures that will limit lead migration off site, as well as site management and reclamation plans to limit potential for further lead contamination.

Mitigation techniques for lead contamination will be implemented under either alternative and are outlined in *Best Management Practices for Lead at Outdoor Shooting Ranges* (USEPA 2005).

### **3.6 NOISE**

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that interferes or disrupts normal activities. Although exposure to high noise levels can cause hearing loss, the most common human response to environmental noise is annoyance. Reaction of individuals to similar noise events is diverse and influenced by numerous factors, such as the type of noise, its perceived importance, the time of day during which the noise occurs, its duration, frequency, level, and community attitudes towards the source of noise.

#### **3.6.1 Affected Environment**

The Project area is located in Ontonagon County, in a landscape dominated by woodlands. Current ambient noise levels in the Project area are not measured. Sound levels include both steady background and intrusive sounds. Characteristic sound sources in the Project area include noise associated with shooting activities and vehicle road noise. Sensitive receptors to these sounds include residences proximal to the Project area.

#### **3.6.2 Environmental Consequences**

Because the Project has been operating an outdoor shooting range since the 1960s, noise generated from shooting activities is already part of the existing environment for humans and wildlife.

Neither of the alternatives under consideration will result in significant adverse impacts to noise levels within the Project area. Under the Proposed Action, Phase 1 of the Project would include the development of an indoor shooting range which would not impact outdoor noise levels. Phase 2 of the Project would include improvements to the existing outdoor shooting range. Sound abating insulation would be installed over the shooters in the new structures, improving noise impacts to surrounding properties and the environment.

### 3.7 ECONOMICS

In this section, we describe the socioeconomic characteristics of Ontonagon County and the village of Ontonagon.

#### 3.7.1 Affected Environment

Ontonagon, Michigan is the nearest town to the Project with a population of approximately 1,250 people. Larger economic centers are located in Houghton, Michigan (~50 miles northeast), and Marquette, Michigan (~100 miles southeast). Income data for the state of Michigan, Ontonagon County, and the village of Ontonagon are presented in Table 3-1 and are based on 2018 estimates from the 2010 U.S. Census data (US Census Bureau 2018).

**Table 3-1. Income Statistics in the Region of the Lake Superior Sportsman's Club.**

	Population	Median Household Income	Persons Below Poverty Level (%)
State of Michigan	9,986,857	\$57,144	13.0%
Ontonagon County	5,720	\$41,546	13.3%
Village of Ontonagon	1,250	\$36,311	15.1%

Source: U.S. Census data (2018 est.)

#### 3.7.2 Environmental Consequences

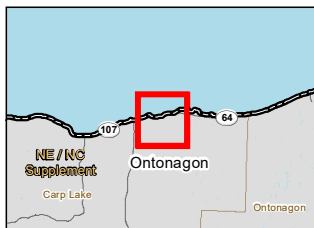
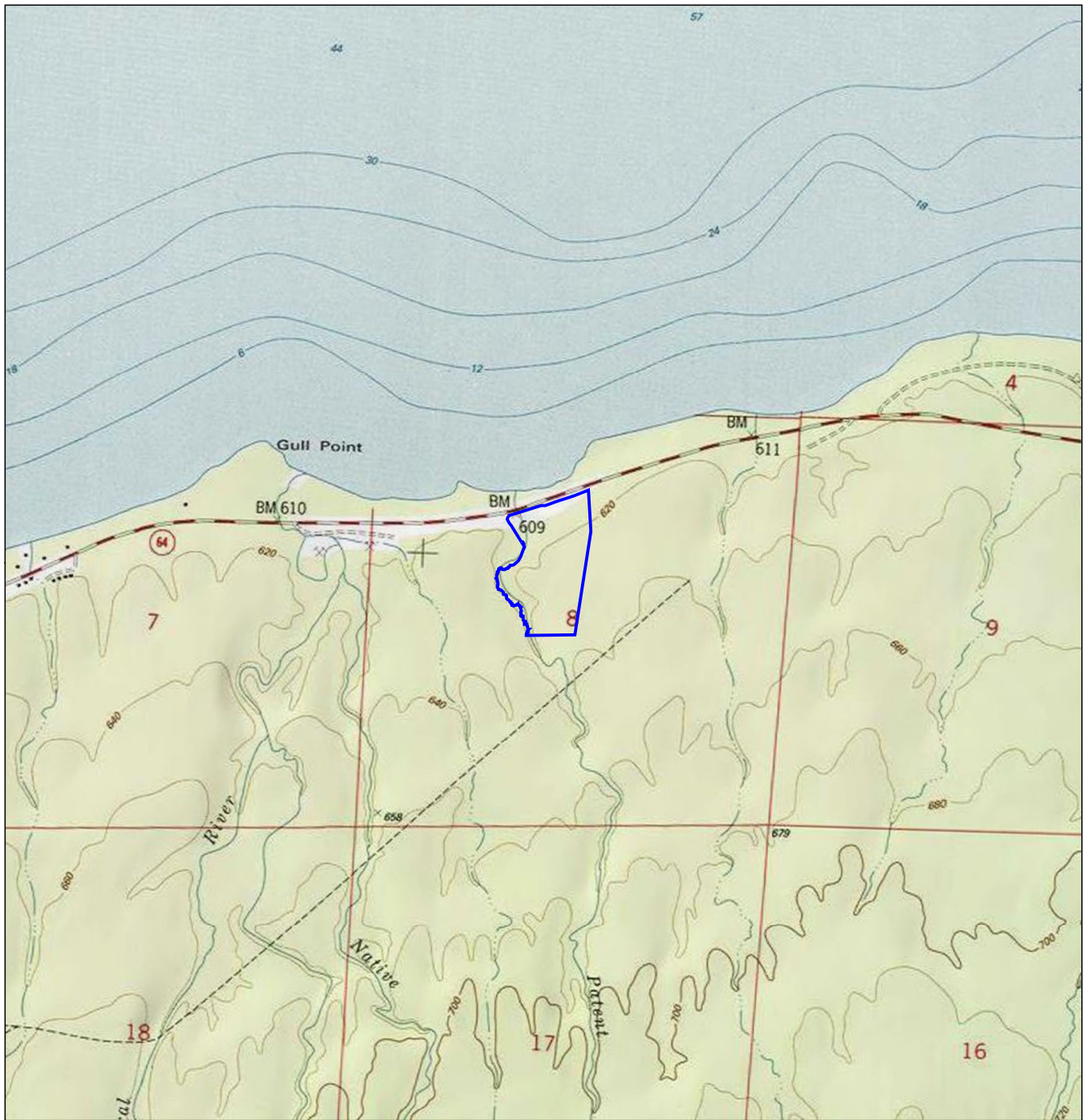
The implementation of either alternative would have a small effect on local socioeconomics. The Project site has been used as a shooting range for many years. The further development of the site is not expected to cause any change to current economic influences. The transition of the site to a shooting range operated by the State would provide a safe location for firearms use.

Neither alternative under consideration would result in significant adverse or beneficial economic impacts; therefore, economics will not be evaluated further.

#### 4.0 LIST OF PREPARERS

Name	Project Role and Qualifications
<b>Stantec Consulting Services Inc.</b>	
Terry VanDeWalle	EA Manager, EA Preparation M.A. Biology B.S. Animal Ecology 30 years' experience with environmental studies, including preparation of EAs and EISs.
Beth Kramer	EA Preparation M.A. Environmental Studies B.S. Biology 3 years' experience with environmental studies

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Legend  
Approximate Project Boundary

0 1,000 2,000 Feet  
(At original document size of 8.5x11)  
1:24,000



Project Location  
T51N, R41W, S8  
T. of Carp Lake, Ontonagon Co., MI

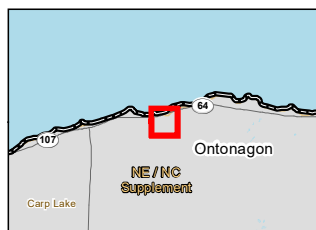
Prepared by RA on 2020-11-17  
TR by JH on 2020-11-17  
IR by BK on 2021-02-02

Client/Project  
Nowak & Fraus Engineers  
LSSC EA

193708077

Figure No.  
**1**  
Title  
**Project Location and Topography**





- Legend**
- Approximate Project Boundary
  - Limit of Disturbance
  - Proposed Road
  - Proposed Building

0 200 400 Feet  
(At original document size of 8.5x11)  
1:4,800



**Project Location**  
T51N, R41W, S8  
T. of Carp Lake, Ontonagon Co., MI

**Prepared by** RA on 2021-01-07  
TR by MZ on 2020-01-07  
IR by BK on 2021-02-02

**Client/Project**  
Nowak & Fraus Engineers  
LSSC EA

193708077

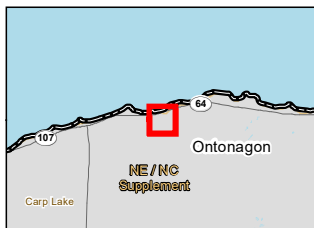
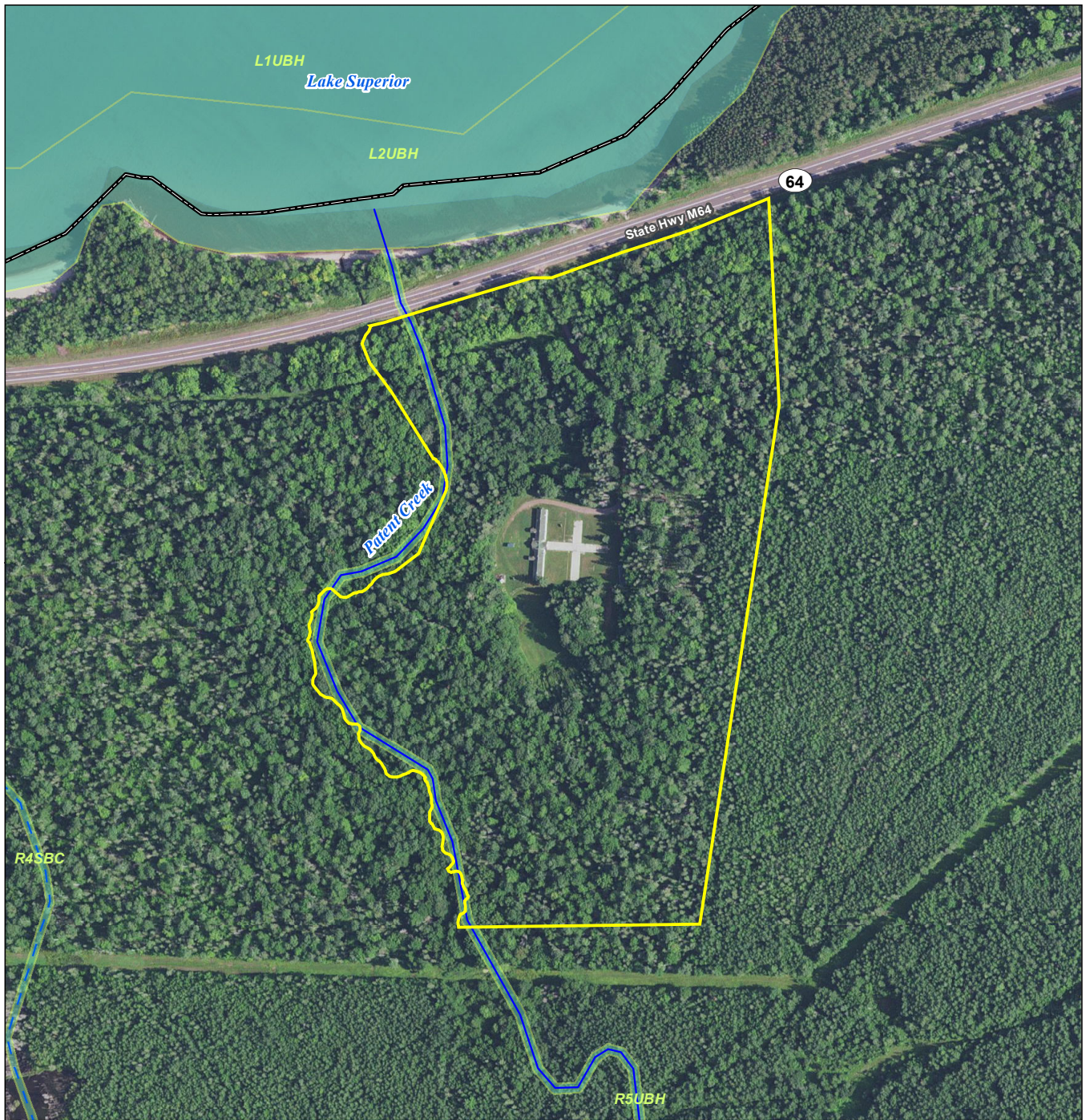
Figure No.

2

Title

Limit of Disturbance





**Notes**  
1. Coordinate System: NAD 1983 StatePlane Michigan North FIPS 2111 Feet Intl  
2. Data Sources: Stantec, Nowak & Fraus Engineers, USGS, NADS, USFWS  
3. Background: NAIP 2018

**Legend**  
Approximate Project Boundary  
National Wetlands Inventory Feature

National Hydrography Dataset  
Perennial Stream  
Intermittent Stream  
Waterbody

0 200 400 Feet  
(At original document size of 8.5x11)  
1:4,800



Project Location  
T51N, R41W, S8  
T. of Carp Lake, Ontonagon Co., MI  
Client/Project  
Nowak & Fraus Engineers  
LSSC EA  
Prepared by RA on 2020-11-17  
TR by JH on 2020-11-17  
IR by BK on 2021-02-02  
193708077

Figure No.  
**3**  
Title  
**National Wetlands Inventory Data**







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